Integrating The Monorail

UTILITIES & CONSTRUCION

DEIS Comments

City of Seattle Comments on the Seattle Monorail Green Line Draft Environmental Impact Statement

October 2003

City of Seattle

OVERVIEW

The City's comments related to Public Services & Utilities and Construction are assembled in this comment section to emphasize the relationships between these different impacts. Utility relocation necessitated by the project is complex and has significant potential for adverse impacts to customers as well as generating construction impacts. A comprehensive, coordinated construction management plan will be essential to minimizing impacts associated with construction.

PUBLIC SERVICES & UTILITIES

Public Services—Crime Prevention

The FEIS should describe SMP's plans for the following three public safety and litter problems: graffiti removal from structures and pillars; accumulation of litter and debris around stations; and facility safety. The SMP is pursuing Crime Prevention through Environmental Design; project elements and operations consistent with these principles should be identified in the FEIS.

Public Services—Propane Storage Hazard

There are two cases in which the guideway will potentially be in close proximity to designated propane storage depots. At Seattle Center the propane storage is located near the NW corner of the Memorial Stadium property at the top of a steep embankment and adjacent to the access road. In this case, the guideway would appear to be what the Seattle Fire Department considers too close to the storage location. There is also a potential conflict just south of the proposed Weller Station where the alignment runs on the east side of Seahawk Stadium. The propane storage is located just south of the cooling tower building. The guideway would appear to run directly over the top of the storage, again this would be unacceptable. Both of the locations described above were identified after protracted negotiations between the Fire Marshal and the facilities. Both facilities are high-capacity public assembly venues where the outdoor storage locations are critical given the relatively large aggregate quantities of up to 500 gallons of propane. Relocation of the storage may not be option. Mitigation measures that would not require relocation, such as blast protection enclosures, are being researched by the Fire Marshal's Office (4-292).

Utilities—Guideway and Operational Impacts

The FEIS should acknowledge the need to develop a consolidated utility relocation plan that includes locations of relocated utilities, the sequence and schedule of utilities to be relocated, a description of service disruptions, and the like. The DEIS described the list of utilities for which each alignment necessitates relocation as a "utility relocation plan" (4-290). The FEIS should either be informed by sufficient preliminary engineering to include the ripple effect of secondary utility relocations, or note that additional relocations may be identified in a consolidated utility relocation plan.

The train power systems could introduce unwanted noise and harmonics into the SCL power system. The FEIS should identify mitigation, such as a DBOM contract provision for power-conditioning equipment that meets SCL standards.

Maintenance of utilities near guideway foundations presents problems. With the existing monorail, maintenance is frequently complicated by the need for special (expensive) shoring requiring review by utility owner and sometimes monorail personnel. One possible way to mitigate this would be to design the new monorail foundation in a way that open excavations of the nearby utilities will not compromise the structural integrity of the foundations. If this is not addressed in design, the City would consider this a long-term adverse impact on our utilities near the foundations

and would seek greater clearances (requiring more relocation) (4-466, 4-296).

Without mitigation, electrical equipment may be affected by stray current and unwanted noise and harmonics; not all stray current will current will be eliminated by induction of the DC current. In addition, adverse impacts on electric utility service could occur. Cathodic protection devices within the structures and piers/foundations will protect the structures but not the underground utilities (4-295/6/7). In addition, adverse impacts on electrical utility service could occur. The FEIS should clarify statements concerning these impacts and mitigation. An acceptable mitigation measure would be to conduct an analysis of whether stray current from the direct current guideway power rail will accelerate the corrosion of underground utilities. This analysis would be provided to the City for review and approval, and specific mitigation measures developed to mitigate such potential before project construction approvals are granted by the City.

CONSTRUCTION

Utility Relocation—Roles and Responsibilities

The FEIS should note that the City-SMP Agreement for Intergovernmental Cooperation for Green Line Development assigns financial responsibility for the relocation of City utilities necessitated by the project to SMP.

The Construction section or Project Description should note that the City's Pavement Opening Policy establishes the zone of influence for reconstruction of street infrastructure after demolition associated with Green Line utility relocation and facility construction.

Utility Relocation—Schedule Considerations

The DEIS states that "Green Line construction is expected to begin in 2005 and continue into 2009 (4-470). The construction schedule should acknowledge and include the time it will take to complete the relocation of all utilities. For example, SCL estimates relocation of underground electrical equipment along the west side of Second Avenue will be a multi-year project. Transmission relocations may take more than 6 weeks to construct depending on the number of structures that need to be moved. SO-MV 230 kV may be an example of this kind of impact at Colorado and Hanford St. Recent similar projects have taken up to 3 months. This is not reflected in the schedule, or in the assessment of construction impacts. A prolonged construction period increases construction and other impacts relative to the additional areas (outside the Green Line route) affected and the intensity of the construction activity (4-472).

The DEIS states that "rather than relocating utilities that are adjacent to guideway foundation, with the approval of the utility company, pipe or duct banks could be protected or reinforced rather than relocated" (4-473). Along the downtown corridor, especially 2nd Avenue, further detailing for proximity of the guideway foundation to existing utilities is necessary.

There could be a timing problem to moving, temporarily or permanently, Seattle City Light overhead or underground lines at certain times of the year (4-473). This would be especially true in winter, when SCL experiences peak loading. SCL may not be able de-energize lines because there could be no alternative way to route power during heavy loading. This depends on the Seattle City Light system configuration at the time, and the configuration changes from time to time.

Access to utilities must be maintained during construction, for repair or maintenance of City utilities (4-491, 4-517).

Long range planning is required to determine and mitigate utility impacts. This requires coordination with the City to develop a plan for design and sequencing of the relocation of all utilities. Specific

impacts to customers along the route must be determined during the planning stage as specific plans are developed. The City will coordinate shutdowns with customers and determining if temporary services are required; therefore, the construction sequencing must be determined and integrated into the design phase, with extensive coordination between SMP, its contractor, the Seattle Fire Department, Seattle Public Utilities, Seattle City Light, and Seattle Department of Transportation (4-512).

The FEIS should clearly state that there are significant adverse impacts resulting from proposed utility relocations, particularly those along Second Avenue. Additionally, the FEIS should identify new locations that are being considered for electrical equipment and other utilities that would need to be relocated, and an assessment of construction impacts should include construction required in the new utility locations (4-513). Finally, the FEIS should make clear distinctions between the alternatives with respect to utility relocation and construction impacts; no such comparisons are provided in the DEIS (4-517).

Construction Mitigation Plans

Construction mitigation plans should have more details. Procedures to minimize negative impacts should be listed for three stages: Site Preparation, Construction, and Post Construction. Additional details on mitigation such as Best Management Practices (BMP) used during construction should be included, such as covering truck beds when hauling, limiting delivery paths, minimizing unnecessary vehicular and machinery activities, etc.

Construction-Related Vibration Impacts

The FEIS should provide more complete information about the potential impacts of construction-related vibration; specific references are provided in the Miscellaneous section of the City's comment letter.

Construction Staging

In Section 4.17.1.6: Construction Staging, there is no mitigation plan for such an extensive area for protection, access and dead load weight impact on shallow underground utilities that maybe in these areas (4-480/481). Also, there is no discussion of water quality impact due to construction activities. Staging layout plans must ensure that appropriate clearance to overhead electrical lines is maintained (4-480). Construction impacts involving acquisition of parcels should also be reflected in Displacement, Economics and Land Use sections. Issues to be considered include: will there be staging areas outside the industrial zones to be near the station construction at, for instance, the termini stations? Are there sufficient vacant parcels near the alternative Operations sites to accommodate staging or will active businesses be affected? Is it possible that in the Interbay Operations site alternative, commercially zoned property could be affected? Would acquisition affect general parking availability in either area or affect required accessory parking for businesses, creating nonconformities?

The use of a concrete batch plant in one of the staging areas creates possible impacts to nearby streams (4-481). The discharge of non-stormwater to the City's stormwater conveyance system is permissible via both the City's Stormwater, Grading and Drainage Control Code and the Municipal Stormwater National Pollutant Discharge Elimination System (NPDES) permit. However, the discharge must meet federal and state water quality standards. If the effluent does not meet these standards, the discharge is considered illegal and therefore, prohibited (4-481).

Construction Traffic Management

In section 4.17.2, the DEIS notes that techniques shall be developed to reduce the traffic lane closures and a traffic management plan would be developed for each construction segment (4-482). Additional detail should be provided so that

reviewers can assess differences in the duration and magnitude of such lane closures and other measures among the project alternatives.

In section 4.17.2.1, the DEIS uses the language "should be avoided" (4-483/484, 4-888/889). The FEIS should describe how the impacts would be mitigated if they cannot be avoided. The DEIS does not discuss mitigation of traffic through all lane closures. This traffic re-routing may have a significant adverse impact to traffic flow on the other adjacent streets and arterials. This should be discussed, disclosed, and mitigated.

There is no mention of mitigation for garbage pick-up during street closures downtown and along other critical locations (4-888).

The use of intelligent traffic signal control as a construction impact mitigation will be necessary on temporary detour routes referenced on page 4-483 and the alternate routes described in the DEIS (4-512).